

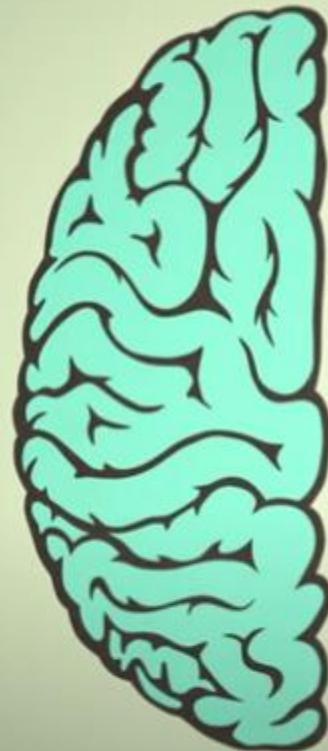
CITIZEN SCIENTIST

*Searching for
Heroes and Hope in an
Age of Extinction*



MARY ELLEN
HANNIBAL

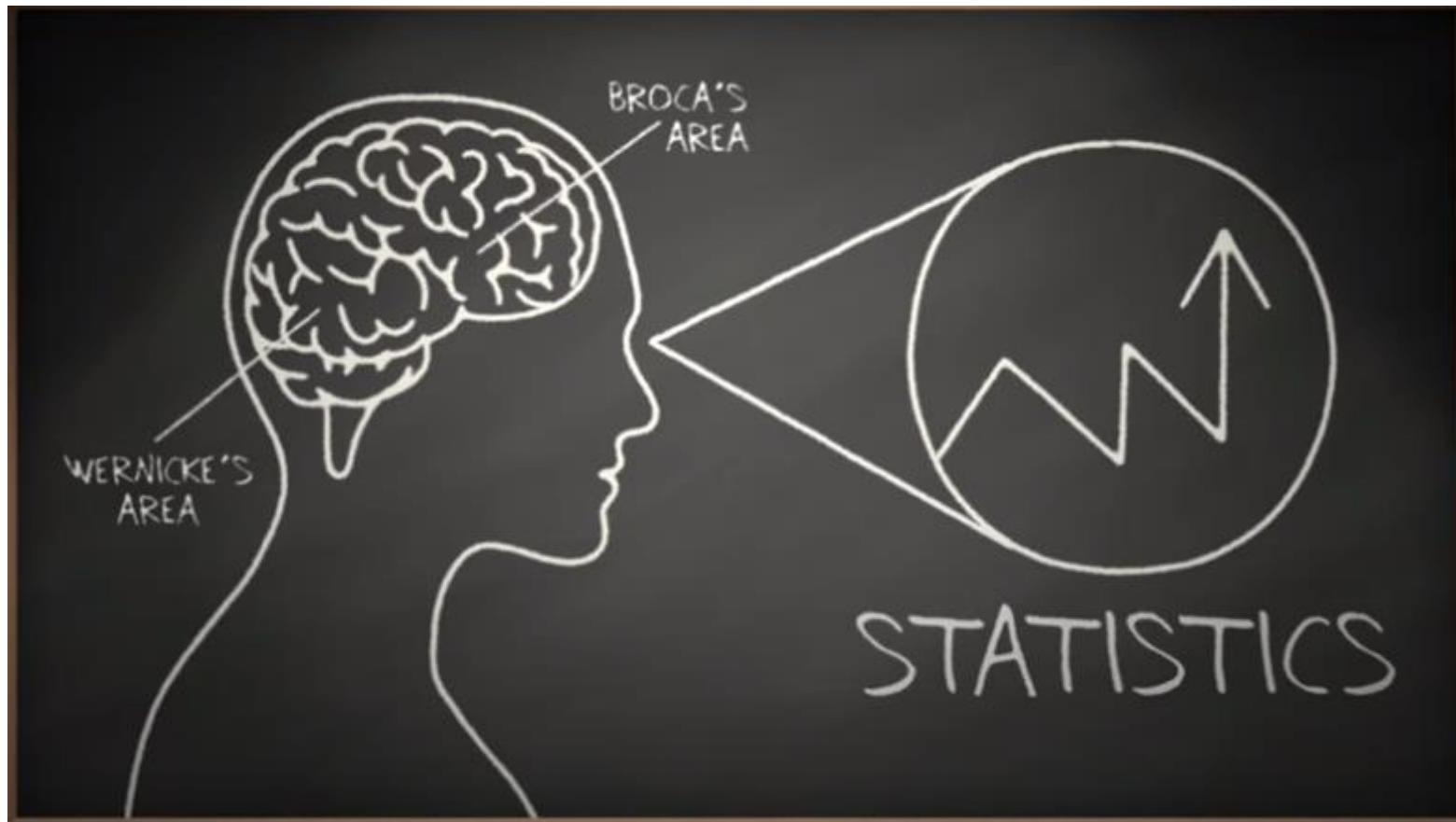
LOGIC



LOGIC



EMOTION ←





PERSONAL



A window with horizontal blinds and a dark frame.

**"ONCE MORE,
WITH FEELING"**

The text is written in a bold, red, 3D-style font. It is positioned in front of a window with white horizontal blinds. The window frame is dark wood. The background outside the window is blurred, showing some greenery and blue sky.

STORYTELLING LIGHTS UP THE SENSORY CORTEX IN THE BRAIN.

**WHICH CAN MAKE YOU
FEEL, HEAR, TASTE, AND SMELL
THE STORY.**



Do “Mirror Neurons” Help Create Social Understanding?

Is the mirror system key to how social understanding is created in the brain?



Psychology Today



You influence the brains and bodies of
those around you

Atzil et al. (2018). Growing a social brain. *Nature Human Behavior*.



and they return the favor

Atzil et al. (2018). Growing a social brain. *Nature Human Behavior*.

THE SCIENCE OF STORYTELLING

As more brands make the move towards content marketing, cutting through the noise is more vital than ever before. But our brains are built to connect with compelling stories.

HOW STORYTELLING AFFECTS THE BRAIN

NEURAL COUPLING

A story activates parts in the brain that allows the listener to turn the story in to their own ideas and experience thanks to a process called neural coupling.

MIRRORING

Listeners will not only experience the similar brain activity to each other, but also to the speaker.

DOPAMINE

The brain releases dopamine into the system when it experiences an emotionally-charged event, making it easier to remember and with greater accuracy.

CORTEX ACTIVITY

When processing facts, two areas of the brain are activated (Broca's and Wernicke's area). A well-told story can engage many additional areas, including the motor cortex, sensory cortex and frontal cortex.



**DATA
+
STORIES**

Two Tools

Data (features, facts)

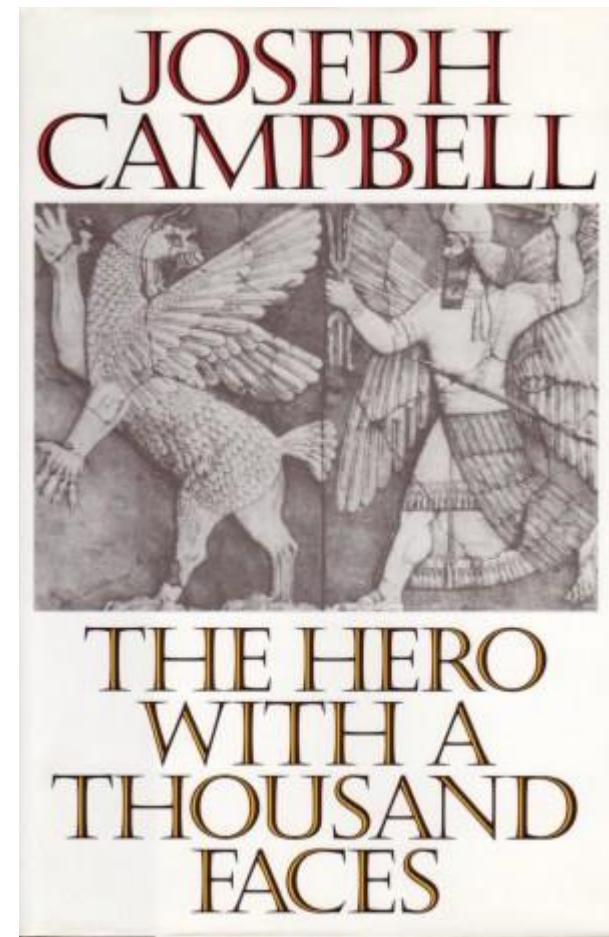
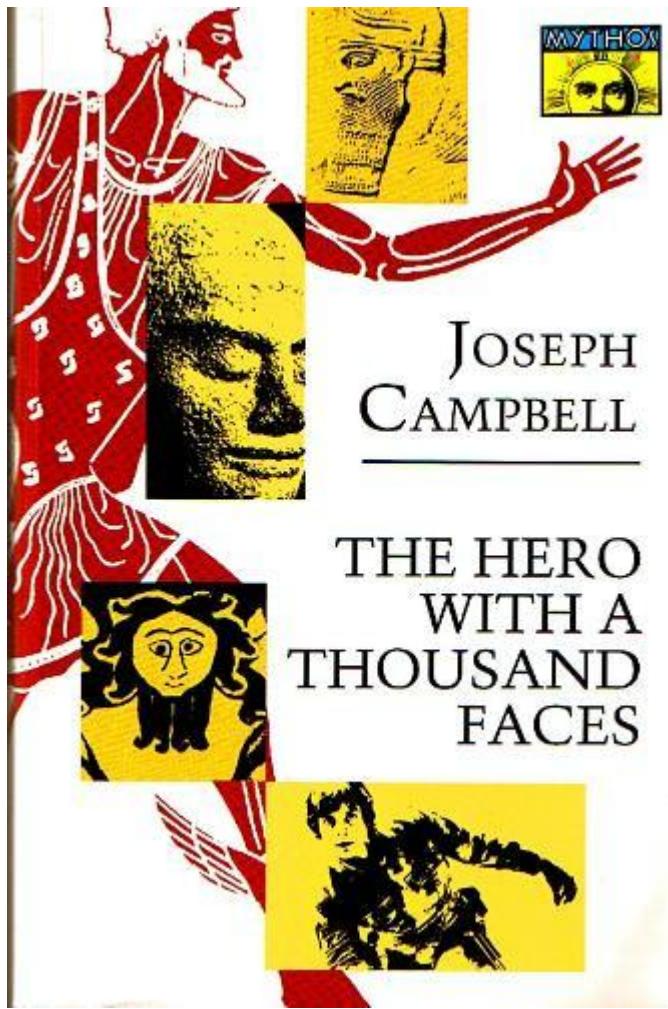
Story (narrative)

Two Roles

Remember the most effective stories blend fact and emotion.

Sharing

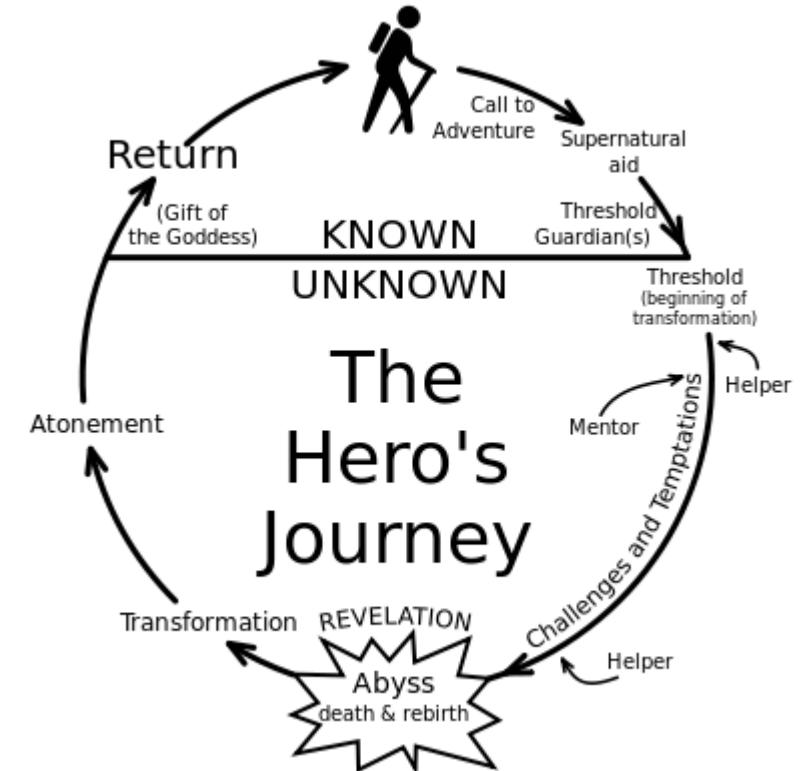
Listening

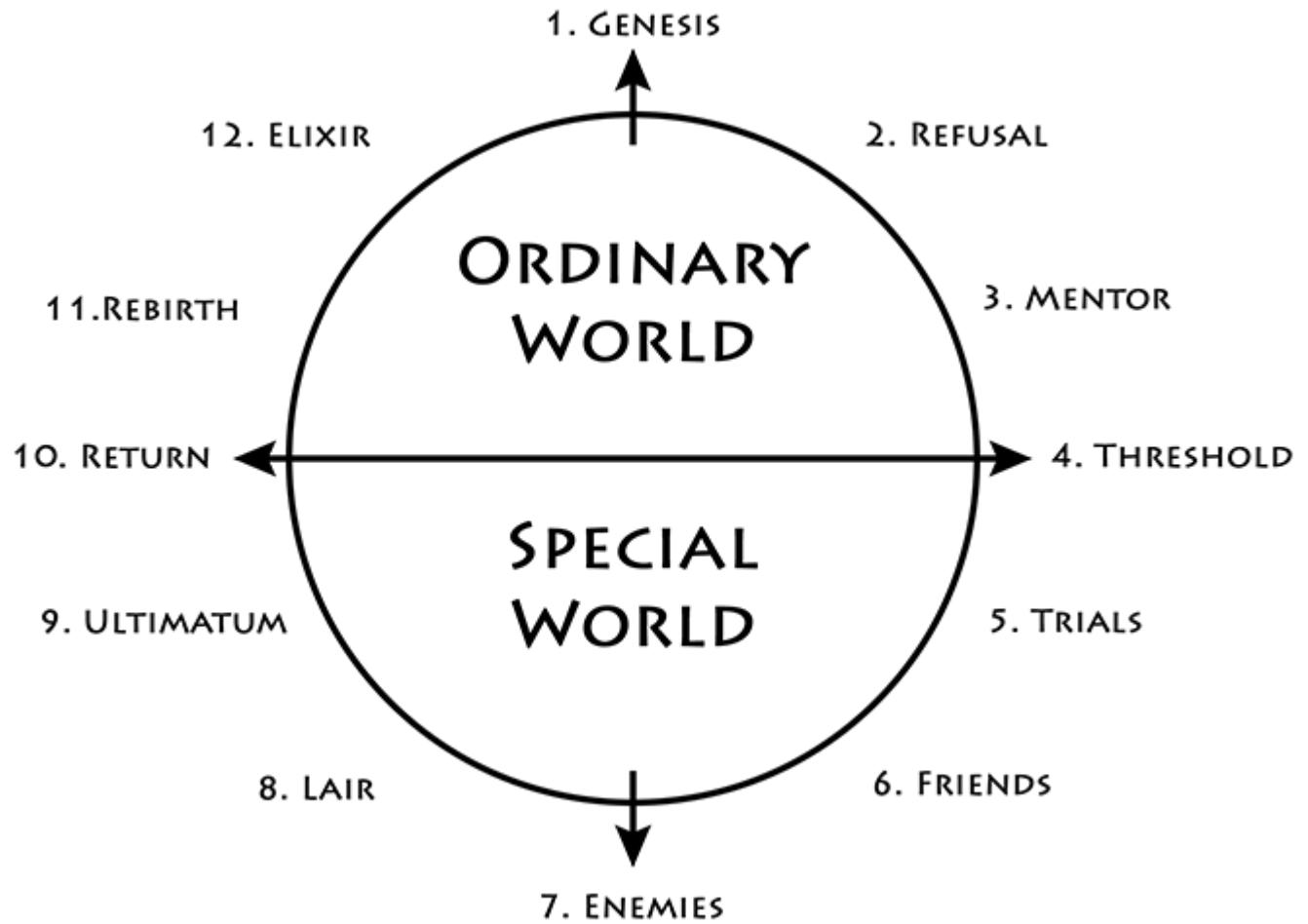


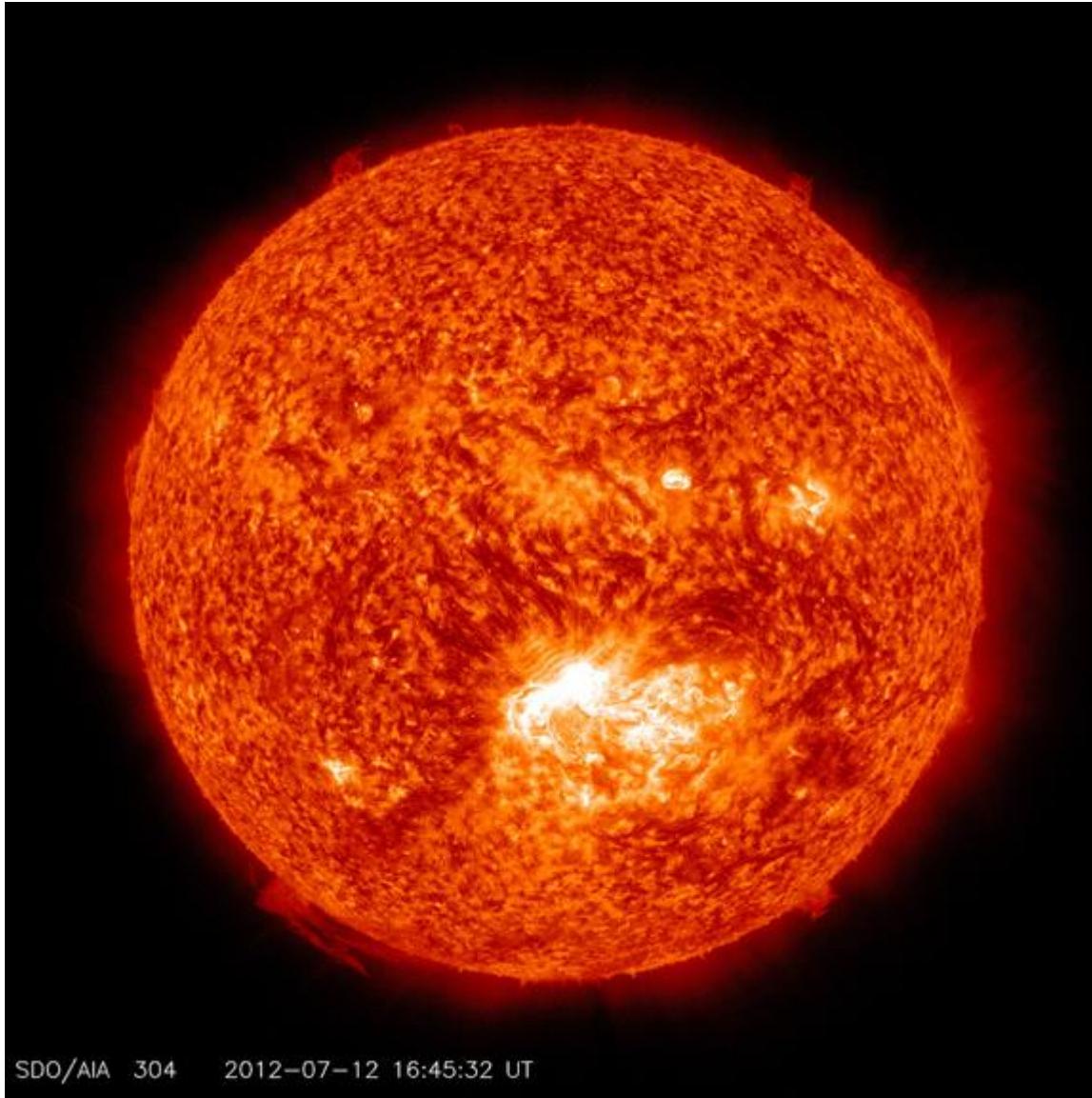


The Hero's Journey

From the *Odyssey*, to *Robinson Crusoe*, to *Star Wars* — why are we drawn to stories about heroes? And what do they tell us about ourselves? This hour, TED speakers explore what makes a hero's journey.







SDO/AIA 304 2012-07-12 16:45:32 UT

Soule et al 1988; Crooks and Soule 1999

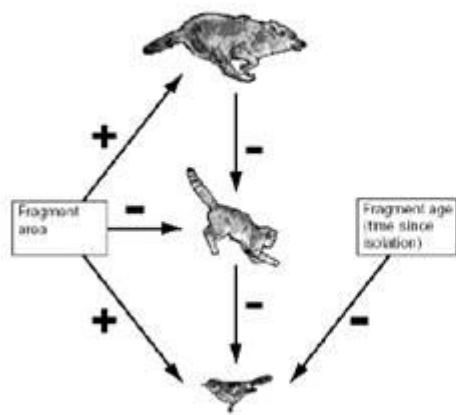
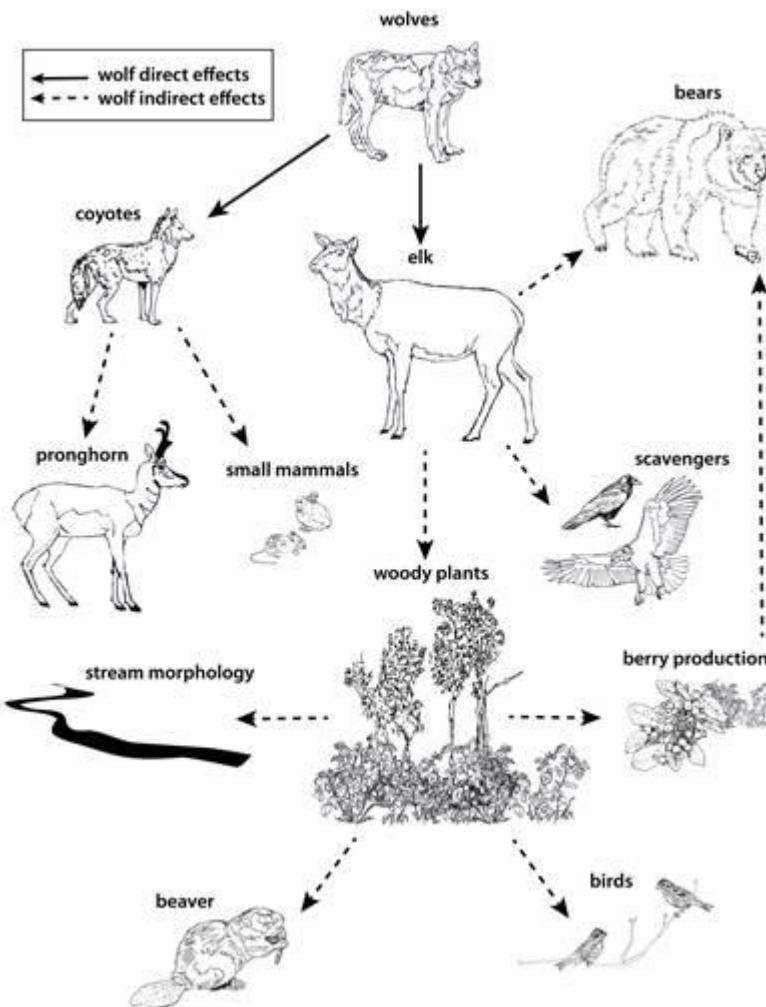


Figure 1 Model of the combined effects of trophic cascades and island biogeographical processes on top predators (for example, coyotes), mesopredators (domestic cat) and other (non-breeding) birds in a fragmented system. Direction of the interaction is indicated with a plus or minus.

- Southern California canyons
- Trophic cascade:
- Mesopredator release
 - Fragmentation extirpates coyotes
 - Cats increase
 - Birds decline
- Island Biogeography
 - Fragment size
 - Age since isolation



CULTURE | ANIMALS

Speak, Butterfly

Butterflies tied together Vladimir Nabokov's home, science, and writing.

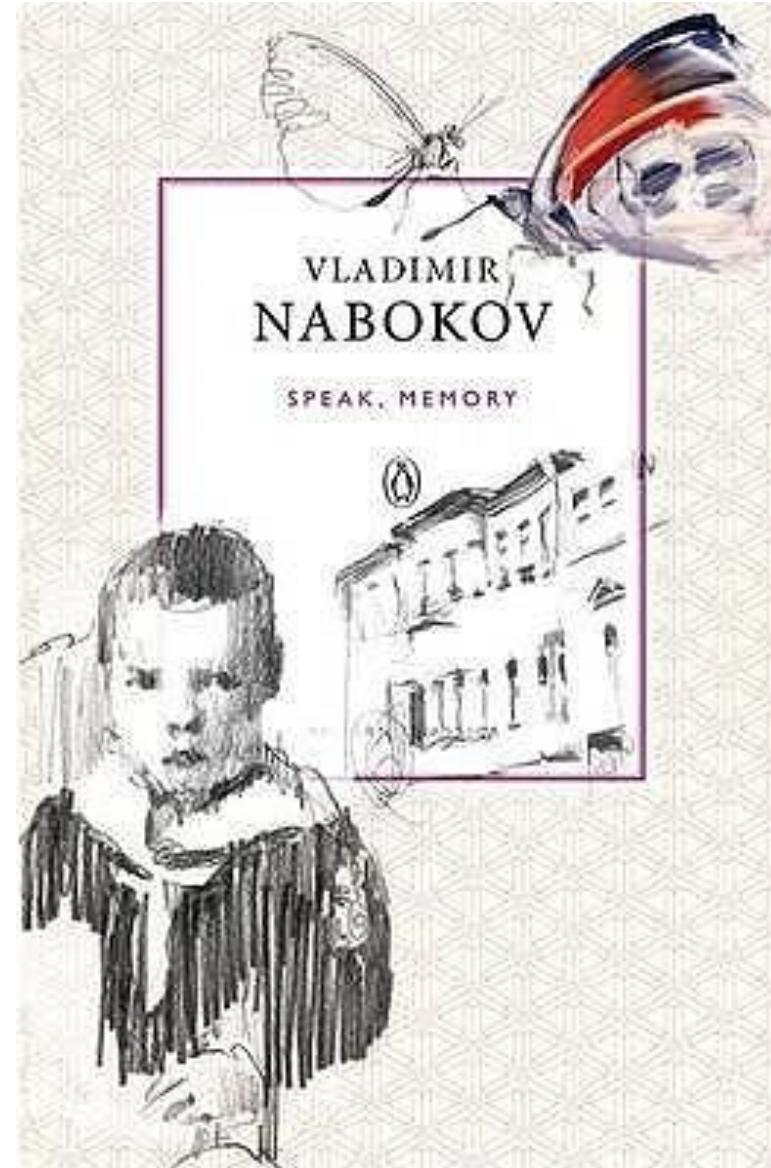
BY MARY ELLEN HANNIBAL

ILLUSTRATION BY CHRIS BUZELLI

DECEMBER 19, 2013









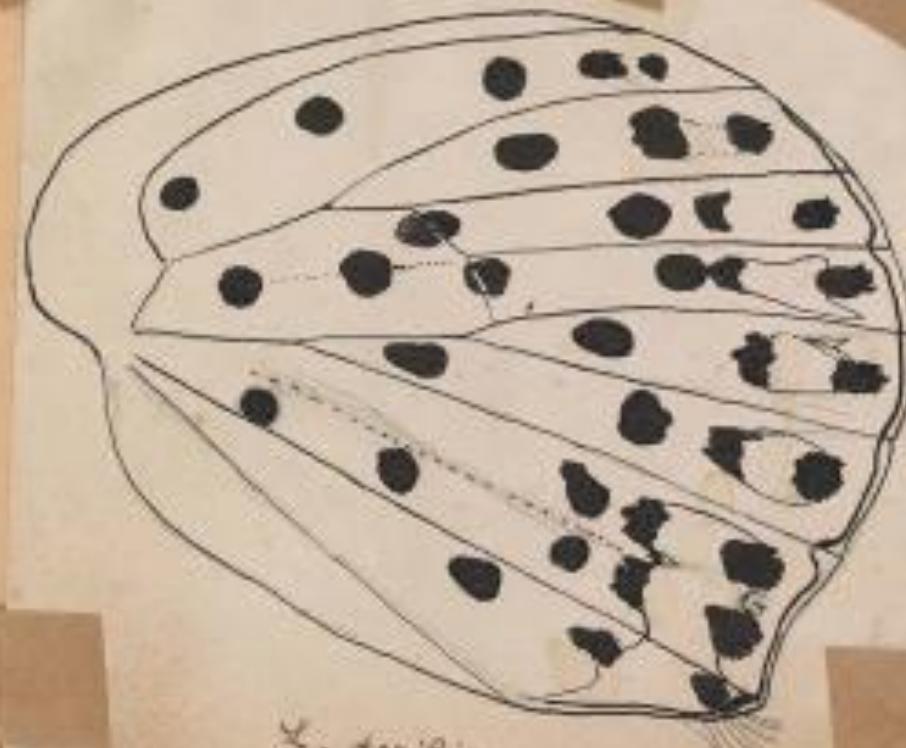
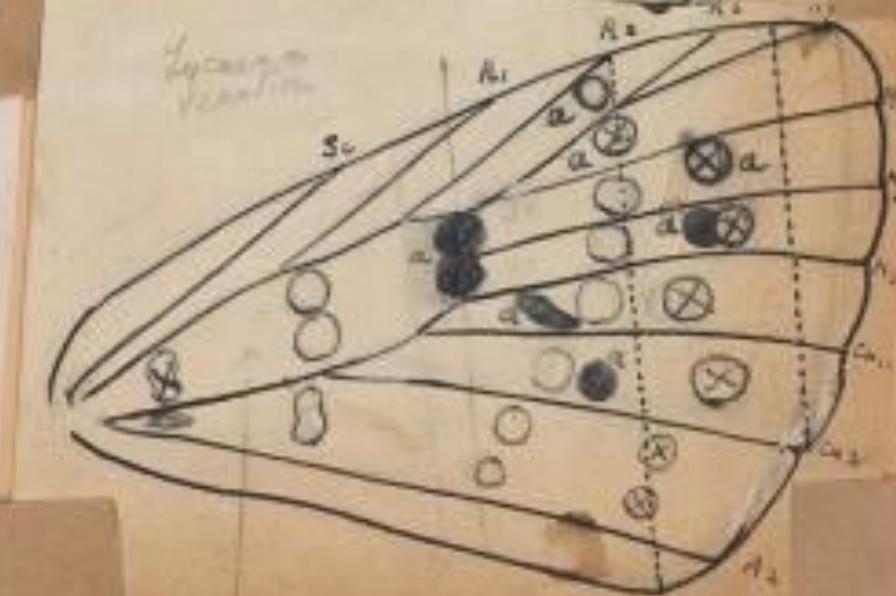
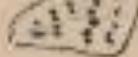
(Post. R₁, ant. R₂)

Thorax

Abdomen



S. down hillside



Observations



Species

Location

Go

Filters 2

The World

2,469
OBSERVATIONS941
SPECIES805
IDENTIFIERS1
OBSERVER